

Proposed Amendment between California Energy Commission and DOE- National Renewable Energy Laboratory

Title: Software Tools for Standards Development & Compliance
Amount: \$0.00
Term: 12 months
Contact: Martha Brook
Committee Meeting: 6/13/2011

Recommendation

Approve this no cost time extension to contract 500-07-034 with National Renewable Energy Laboratory. Staff recommends placing this item on the consent calendar of the Commission Business Meeting.

Issue

This project will develop building energy analysis tools for use in Building Energy Efficiency Standards and is being completed in partnership with the U.S. Department of Energy (DOE). The National Renewable Energy Laboratory (NREL) principally used DOE funds for the first half of this project, resulting in a balance of PIER funds for this project that will not be spent by the original contract term end date. NREL will continue work on the contract deliverables through October 2012, using the existing contract funds if this amendment is approved.

Background

Recent and current legislation in California includes aggressive goals to increase energy efficiency and reduce greenhouse gas emissions by significantly increasing the stringency of the Title 24 Building Energy Efficiency Standards (Standards). The Commission does not currently have the appropriate analysis tools or standards compliance software to integrate new energy efficiency measures into future versions of the Standards.

EnergyPlus is a new-generation building energy simulation program based on two reputable simulation programs developed in the 1970s, DOE-2 and BLAST, with numerous added capabilities. The principal advancement from its predecessors is that EnergyPlus simulates loads, systems and plants within the same time step, so important interactions can be accurately modeled. The Standards currently use an outdated version of DOE-2 for its reference program which has limited the proper analysis of several energy saving building technologies. Adopting EnergyPlus as the reference program for future Standards will facilitate the appropriate consideration of these technologies within new building energy design projects.

Proposed Work

In this project, software tools will be developed to advance future generations of the efficiency standards by implementing the EnergyPlus energy simulation software as the analysis engine for the building energy use assessments that are required for standards development and compliance. Analysis tools will be developed that will facilitate the use of EnergyPlus to analyze energy features of buildings, understand the potential statewide energy impacts of building systems and develop recommendations for future Standards.